

**What is claimed is:**

- 1) **Tooling for the fabrication of composite materials comprising a carbonaceous foam having a density of between about 0.10 and about 0.80 g/cm<sup>3</sup>, a coefficient of thermal expansion of between about 0.5 and about 6.5 and a thermal conductivity below about 1.**
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2) **The tooling of claim 1 wherein said carbonaceous foam is pitch-based or coal-based.**
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3) **The tooling of claim 2 wherein said carbonaceous foam is a semi-crystalline, largely isotropic, porous coal-based product produced from particulate coal exhibiting a free swell index of between about 3.5 and about 5.0.**
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4) **The tooling of claim 3 wherein said coal exhibits a free swell index of between about 3.75 and about 4.5.**
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6) **The tooling of claim 2 having a compressive strength below about 6000 psi.**
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6) **The tooling of claim 2 wherein said carbonaceous foam has been carbonized.**

- 7) **The tooling of claim 2 wherein said carbonaceous foam has been graphitized.**
- 8) **The tooling of claim 1 further including a facesheet of a dissimilar material coated thereon.**
- 9) **The tooling of claim 1 wherein the density of said carbonaceous foam varies in density throughout the mass thereof.**